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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,557	12/22/2000	Chaiwat Oottamakorn	9432-000129	3401

			EXAMINER
7590	06/03/2005		KLINGER, SCOTT M

Harness, Dickey & Pierce, P.L.C.
P.O. Box 828
Bloomfield Hills, MI 48303

ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
 after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
 earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 January 2005</u>.

2a)☒ This action is **FINAL.** 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
 closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

 4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

 a)☐ All b)☐ Some * c)☐ None of:

 1.☐ Certified copies of the priority documents have been received.

 2.☐ Certified copies of the priority documents have been received in Application No. _____.

 3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
 application from the International Bureau (PCT Rule 17.2(a)).

 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-14 are pending.

Response to Arguments

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies were not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection necessitated by the amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (U.S. Patent Number 5,872,771, hereinafter "Park") in view of Keshav ("An Engineering Approach to Computer Networking", 1997, hereinafter "Keshav"). Park discloses an adaptive connection admission control method using traffic measurement and estimation. Park shows estimating the cell loss rate of the connections to the network and comparing them to a target cell loss rate. The system of Park does not explicitly show a first envelope associated with incoming traffic, a second envelope associated with current traffic, and a service curve associated with departing traffic. However, all three of these values are used in determining if a connection will be accepted. The cell loss rate is calculated by measuring the number of cells passing through the output link and by using the current connections.

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of simplifying the system of Park so as to keep the sum of incoming traffic and current traffic lower than outgoing traffic, in order to guarantee quality of service and avoid creating a bottleneck.

Although Park shows substantial features of the claimed invention, Park does not show **III**. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Park as evidenced by Keshav.

In analogous art, Keshav discloses an engineering approach to computer netoworking. Keshav shows: *"networks that provide heterogeneous qualities of service (or integrated service networks) are likely to cost less than networks that provide a single quality of service"* (Keshav, page 455, section 14.4)

"GS [Guaranteed-service] *applications are also called real-time applicaiotns, becausetheir utility depends on the real (as opposed to virtual) time."* (Keshav, page 456, paragraph 4); if some QoS levels provide guaranteed service a person of ordinary skill in the art would have readily recognized the desirability and advantages of assuming new flows have highest priority, in order to provide guaranteed service to new flows that require that level of service.

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the system of Park so as to provide heterogeneous qualities of service and assume new flows have highest priority, such as taught by Keshav, in order to provide the benefits mentioned above.

In referring to claim 12, Park in view of Keshav shows,

- Said information system is a multi-port switch:

  "To accomplish the object of the present invention, an adaptive connection admission control method in an Asynchronous Transfer Mode switching system" (Park, col. 1, lines 49-51)

Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Keshav in further view of Liebeherr et al. ("Effective Envelopes: Statistical Bounds on Multiplexed Traffic in Packet Networks", hereinafter "Liebeherr").

In referring to claim 2, although Park in view of Keshav shows substantial features of the claimed invention, including the network of claim 1, Park in view of Keshav does not show said first and second envelopes are global effective envelopes. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Park in view of Keshav as evidenced by Liebeherr.

In analogous art, Liebeherr discloses a statistical service that makes probabilistic service guarantees. Liebeherr shows said first and second envelopes are global effective envelopes: Liebeherr, page 1224, section II B shows an equation for a global effective envelopes, *"Global effective envelopes ... are bounds for the arrivals in all subintervals ... of a larger interval [than local effective envelopes]"* (Liebeherr, page 1224, section II B)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the network of Park in view of Keshav so as to use global effective envelopes, such as taught by Liebeherr, in order to *"exploit statistical multiplexing without assuming a specific source model."* (Liebeherr, page 1223, section I)

In referring to claim 3, Park in view of Keshav in further view of Liebeherr shows,

- Said second envelope is a global effective envelope determined as a function of the measured average and variance of the aggregate traffic:
  Liebeherr, page 1224, section II B shows an equation for a global effective envelopes in which the global effective envelope is a function of the measured average and variance of the aggregate traffic

In referring to claim 4, although Park in view of Keshav shows substantial features of the claimed invention, including the network of claim 1, Park in view of Keshav does not show said first and second envelopes are global effective envelopes. Nonetheless this feature is well

known in the art and would have been an obvious modification to the system disclosed by Park in view of Keshav as evidenced by Liebeherr.

In analogous art, Liebeherr discloses a statistical service that makes probabilistic service guarantees. Liebeherr shows said first and second envelopes are global effective envelopes: Liebeherr, page 1224, section II B shows an equation for a local effective envelopes, *"A local effective envelope provides a bound for the aggregate arrivals ... for any specific ('local') time interval ..."* (Liebeherr, page 1224, section II B)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the network of Park in view of Keshav so as to use local effective envelopes, such as taught by Liebeherr, in order to *"exploit statistical multiplexing without assuming a specific source model."* (Liebeherr, page 1223, section I)

In referring to claim 5, Park in view of Keshav in further view of Liebeherr shows,

- Said second envelope is a local effective envelope determined as a function of the measured average and variance of the aggregate traffic:

  Liebeherr, page 1224, section II B shows an equation for a local effective envelopes in which the local effective envelope is a function of the measured average and variance of the aggregate traffic

In referring to claim 6, Park in view of Keshav in further view of Liebeherr shows,

- Said first effective envelope is based on the aggregate of arriving traffic:

  Liebeherr, page 1224, section II B shows an equation for a local effective envelopes, *"A local effective envelope provides a bound for the aggregate arrivals ... for any specific ('local') time interval ..."* (Liebeherr, page 1224, section II B)

In referring to claim 7, Park in view of Keshav in further view of Liebeherr shows,

- Said aggregate is determined by measuring an aggregate arrival flow at plural time intervals and by calculating the average and variance:

Liebeherr, page 1224, section II B shows an equation for a global effective envelopes, *"Global effective envelopes ... are bounds for the arrivals in all subintervals ... of a larger interval [than local effective envelopes]"* (Liebeherr, page 1224, section II B)

In referring to claim 8, Park in view of Keshav in further view of Liebeherr shows,

- Said second effective envelope is recursively calculated:
  Liebeherr, page 1224, section II B shows, "there exists a smallest local effective envelope, since the minimum of the two local effective envelopes is again such an envelope", and can therefore be calculated recursively

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Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Keshav in further view of Cruz et al. ("Scheduling for Quality of Service Guarantees via Service Curves", hereinafter "Cruz"). Although Park in view of Keshav shows substantial features of the claimed invention, Park in view of Keshav does not show said service curve is determined by developing a list of pairs representing the amount of time required to service one packet of information (packet delay) and the number of backlogged packets of information and using said list to determine a bounded service envelope. Nonetheless this feature is well known in the art and would have been an obvious modification to the system disclosed by Park in view of Keshav as evidenced by Cruz.

In analogous art, Cruz discloses using service curves for quality of service guarantees. Cruz shows said service curve is determined by developing a list of pairs representing the amount of time required to service one packet of information and the number of backlogged packets of information and using said list to determine a bounded service envelope: Cruz, Page 513, column 2, Definition 1 shows there exists a service curve based on the backlog and the time it takes to service a packet.

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of modifying the network of Park in view of Keshav so as to use a service curve based on the backlog and time it takes to service a packet (packet delay), such as

taught by Cruz, in order to *"efficiently allocate limited network resources to many connections by promoting sharing while also providing quality of service for each connection"* (Cruz, page 512, section 1).

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Keshav in further view of Mo et al. (6693909, hereinafter "Mo"). Although Park shows substantial features of the claimed invention, including the system of claim 1 (see 102 rejection above), Park does not show explicitly show said information system is an autonomous network. Nonetheless this feature is well known in the art and would have been an obvious implementation of the system disclosed by Park as evidenced by Mo.

In analogous art, Mo discloses a method and system for transporting traffic in a packet-switched network. Mo shows: *"FIG. 2 illustrates details of the transport router 60 in accordance with one embodiment of the present invention. In this embodiment, the transport router 60 comprises a simple port group and acts as a single network element within a customer's autonomous network."* (Mo, col. 5, lines 58-62)

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of implementing the system of Park so as to provide access control on an autonomous network, such as taught by Mo, in order to guarantee the quality of service on an autonomous network.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Keshav in further view of Taylor (U.S. Patent Number 5,664,170, hereinafter "Taylor"). Although Park in view of Keshav shows substantial features of the claimed invention, including the system of claim 1, Park in view of Keshav does not show explicitly show said information system is a computer network domain. Nonetheless this feature is well known in the art and would have been an obvious implementation of the system disclosed by Park in view of Keshav as evidenced by Taylor.

In analogous art, Taylor discloses a flexible distributed network database containing configuration information for a network divided into domains. Taylor Figure 3 shows a view of a computer network domain.

Given these teachings, a person of ordinary skill in the art would have readily recognized the desirability and advantages of implementing the system of Park in view of Keshav so as to provide access control on a computer network domain, such as taught by Taylor, in order to guarantee the quality of service on a computer network domain.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott M. Klinger whose telephone number is (571) 272-3955. The examiner can normally be reached on M-F 9:00am - 5:30pm.
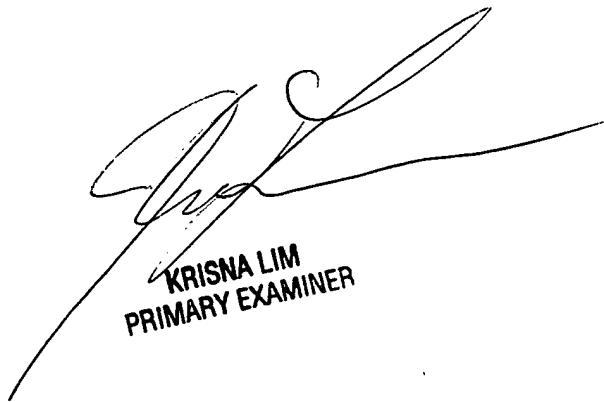
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Scott M. Klinger
Examiner
Art Unit 2153

smk

KRISNA LIM
PRIMARY EXAMINER